RIGIDITY IN ADULT MALE PSYCHOTICS AND ITS MODIFICATION BY CONVULSIVE SHOCK THERAPY

BY

MAXWELL SPENCER PULLEN

B.A., University of Wisconsin, 1939

AN ABSTRACT OF A THESIS

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF DOCTOR OF PHILOSOPHY IN PSYCHOLOGY
IN THE GRADUATE COLLEGE OF THE
UNIVERSITY OF ILLINOIS, 1952

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RIGIDITY IN ADULT MALE PSYCHOTICS AND ITS MODIFICATION BY SHOCK THERAPY[1]

The problem in this research was to try to discover, in quantitative terms, the nature of the effect of convulsive shock therapy upon rigidity of personality in adult male psychotics.

For the purpose of this study rigidity was defined as a generalized habit or tendency to cling to or perseverate with a previously-made response, in lieu of switching to a response which is more appropriate to the prevailing environmental conditions.

The central hypothesis was that psychotic patients who undergo shock treatment will display a significant reduction in the degree of rigidity which was characteristic of them prior to shock. We also proposed a secondary hypothesis: those psychotic patients who improve *clinically* as a result of shock treatment will show a significant reduction in the amount of rigidity characteristic of them prior to shock.

The subjects were sixty psychotic patients from the V. A. Hospital at Danville, Illinois - 35 experimentals and 25 controls. The two groups were equated for age, duration of illness, diagnosis, and "degree of incapacitation."

The subjects were given a battery consisting of the following tests: Changing Colors, Changing Figures, Creative Effort Motor Peresveration, Hidden Objects, Hidden Words, Riddles, Flicker Fusion Threshold, and Flicker Fusion Overlap. The first two and the last were original with this study; the others were adapted from previous rigidity studies. Also included in the battery, as a measure of intelligence, was the Wechsler-Bellevue (Short Form).

The battery was administered to the experimental group on two occasions: just prior to, and immediately following a

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1. This study was carried out under the direction and with the cooperation of Dr. Ross Stagner of the Department of Psychology of the University of Illinois.

course of shock therapy. The battery was also administered to the control group, which did not receive shock, on two occasions separated by a time interval equivalent to that obtaining for the experimentals.

The test scores obtained on the first administration of the battery for the entire sample were intercorrelated and factor-analyzed. One of the factors extracted appeared to be a rigidity factor. A score on this factor was computed for each subject for both administrations of the battery, and his net change in the rigidity factor was computed.

The results revealed that the experimental group decreased more than the controls in the rigidity factor, although this difference was not significant at the five per cent level of confidence. That part of the experimental group which was designated as *clinically improved* by the psychiatrist decreased more in digidity than did the control group by a difference which was significant at between the 1 and 5 per cent levels of confidence. The same results applied when the sample was arbitrarily limited to schizophrenics only.

In accounting for these results, we proposed the hypothesis that behavioral rigidity, of the type demonstrated on our test battery, is a result primarily of motivational factors within the individual. We postulated the existence of two secondary motive-systems in all individuals: Motivation R (for "reality"). and Motivation W (for "withdrawal"). We further postulated that in schizophrenic individuals the motivation to withdraw into a phantasy world (Motivation W) is stronger than the motivation to respond "realistically" (Motivation R). In many situations involving a changed or changing stimulus, the individual has a choice between making an R-oriented response (e.g., changing his on-going response to conform to the objectively changing stimulus), or a W-oriented response (e.g., continuing with a just-previously-made response, which minimizes the necessity to attend closely to the "real" stimulus). In such a situation it is predicted that the schizophrenic, by virtue of his predominant W-

motivation, will generally make the second choice, i.e., he will stick rigidly to his original response. This behaviorally rigid type of activity was found to be significantly reduced in clinically improved schizophrenic patients following shock. We felt that this result was due mainly to the memory decrement which is characteristic of all shock-treated individuals. The memory disruption was believed to cause a disintegration of the schizophrenic's autistic world, which thereby loses some of its power to instigate and direct the individual's responses. This, in turn, weakens his W-motivation or desire to withdraw, to a point where his R-motivation competes more favorably with it, i.e., it results in a higher proportion of R-oriented responses and a reduction in the number of W-oriented, or *rigid* responses.

10 tables, 169 references

VITA

Maxwell Spencer Pullen was born on February 3, 1918, in Evansville, Wisconsin. After graduating from high school at Neillsville, Wisconsin, in 1935, he attended the University of Wisconsin until June, 1939, when he received the Bachelor of Arts degree. He served as an officer in the Army from December, 1940, until December, 1946. In October, 1947 he began graduate study in clinical psychology at the University of Illinois. He held the position of part time psychological intern at the Danville, Illinois Veterans Administration Hospital from September, 1948 to December, 1951. He was a Research Assistant in Psychology at the University of Ililnois from February, 1952 to June, 1952.